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An Investigation into the Impact of Technology on Logistics and Supply Chain Management: A Case of the Small and Medium Enterprise Retailers in Lilongwe City, Malawi

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ABSTRACT

The study aimed to investigate the Impact of Technology on Logistics and Supply Chain Management. It assessed the Technological use by Small and Medium Enterprise Retailers in Lilongwe City, Malawi and focused on; the Level of Technological Use, Pros and Cons of Technological Implementation, the types of Technologies used, and the Challenges that the Retailers face in their Technological implementation.

The sample size for this study was 110 and a Simple Random Sampling Technique was used to select the Retailers in conjunction with a Purposive Sampling Technique to select the Employees involved in Logistics and Supply Chain Activities i.e. Procurement, Inventory Management/Warehousing, Sales and Marketing.

The study followed a Quantitative Approach and the Data was collected through a Self-Administered Questionnaire. Data Analysis was done in relation to Objectives of the Study where each Objective was analyzed according to the Primary Data as collected from the Retailers with the aid of the SPSS Analysis Tool.

The Findings of the Study show high Levels of Technological Use by the Retailers most of which is the Use of Basic Technologies like Phones/Phone Applications and Computer Microsoft Packages. The use of Advanced Logistics and Supply Chain Technologies was restricted to Point of Sale Systems represented by a slight Majority of the Retailers. A good number of Retailers also use Accounting Systems to Track Their Purchases and Sales.

The Study also confirmed that Technological use in Logistics and Supply Chain Management brings a Positive Impact in terms of improving Work Processes by encouraging Coordination from both within and outside interactions with Suppliers and Customers and therefore enforcing Process Efficiency and Creating a Competitive Advantage.

However the Study also that the Retailers face many Challenges when it comes to Technology Implementation some of which include; high Cost for both Purchase and Installation, Slow Internet Connectivity and Poor Service Delivery by Communication-Service Providers, High Internet Charges and Lack of Technical Know-how on the part of the Retailers, themselves.

1. Introduction

Every Profit Oriented Organization aspires to entice more Customers and gain a Competitive Advantage over its Competitors so as to create lasting Customer Relationships and earn more profits for its continued existence.

Logistics and Supply Chain Management is one of the building blocks in gaining this competitive advantage for both Product Oriented and Service Oriented Organizations.

As defined by, (Myerson, 2015), Logistics Management is the Planning, Implementation and Control of the efficient, effective forward and reverse flow and storage of Goods, Services and related Information between the point of origin and the point of consumption in order to meet Customer requirements.

A Supply Chain is a network of organizations and processes whereby a number of Enterprises, Suppliers, Manufacturers, Distributors and Retailers collaborate along the entire value chain to acquire raw-materials, convert them into products and then distribute these to the consumer, (Ivanov, Tsiponalidis, & Shoneberger, 2019). For any business to be truly successful on the Market it has to manage its Supply Chain more effectively than its Competitors.

In recent times, the development of International Trade is driven by International Logistics Management and the provision of the Global Supply Chain. The ultimate objective of Global Supply Chain Management is to link the Marketplace, Distribution Network, Manufacturing/Processing/Assembly Process and Procurement Activity in such a way that Customers are serviced at a higher level, yet lower Cost, (Branch, 2009).

(Helo & Szekely, 2005), emphasized that Developments in Technology and its continued progress together with Internet based Technologies has enhanced the use of Software Based Supply Chain Management.

Recent Trends in Malawi show that more and more Small and Medium Enterprise Retailers are involved in International Trade as they get most of their Supplies from across National Borders from Places like China, South Africa, Tanzania, USA, UK, etc. (mccci.org, 2022), thus necessitating the use of Technology in their Logistics and Supply Chain Management.

The use of Technology in the Retail Sector is very crucial since Retailing has become a High-Tech Industry as Retailers have become dependent on Information Technological use and Analytical Models to improve their overall Operations, (Siganul, Yoag, Tanakanjal, Jiony, & Gom, 2015). Retailers use Websites to Market their Products to Customers, provide interface for interactions with Customers, Radio Frequency Identification Technology to improve Supply Chain Collaborations and Efficiency through Collaborative Planning, Forecasting and Inventory Replenishment Systems, (Siganul, Yoag, Tanakanjal, Jiony, & Gom, 2015)

However, the Digital Landscape in the country is less than ideal, (Bichler, 2007), revealed that Malawi faces a serious challenge in Information Communication Technology.

(Chari & Nguyen, 2017), stressed the fact that Malawi being landlocked combined with the inadequacy of Infrastructure has a negative impact on the International Competitiveness and creates fewer inflow of Direct foreign Investment, Advanced Technologies and Innovations.

2. Literature Review

The works of many Authors and Scholars on the Topic of the use of Technology in Logistics and Supply Chain Management and its impact on the Business brought about well documented and analyzed fields of Information which has enabled a deeper understanding and insight into the Field. The Study used the Empirical Evidence which already exists on the subject as guidance and reference points for further Research Areas or Gaps which this study can exploited.

2.1. Logistics and Supply Chain Management

Logistics Management is defined as the Planning, Implementation and Control of the efficient, effective forward and reverse flow and storage of Goods, Services and related Information between the point of origin and the point of consumption in order to meet Customer requirements, (CSCMP, 2022).

Supply Chain Management on the other hand is an integrating function which encompasses the planning and Management of all activities involved in Sourcing and Procurement of Materials, their Conversion and all the Logistics Activities involved in the Process, (CSCMP, 2022). Logistics Management therefore is a part of Supply Chain Management which also involves the coordination and collaboration with Suppliers, Intermediaries and Distributors.

(Ivanov, Tsiponalidis, & Shoneberger, 2019), also described the Supply Chain as a network of organizations and processes whereby a number of Enterprises, Suppliers, Manufacturers, Distributors and Retailers collaborate along the entire value chain to acquire raw-materials, convert them into products and then distribute these to the Consumer.

Figure 2.1. Logistics and Supply Chain Management for an E-Commerce Company

Source: corporatefinanceinstitute.com

E-commerce Logistics is generally Web-Based, the Selling, Ordering and Payments all done online while Traditional Commerce Logistics might use some online Internet Communication Technology (ICT) and Technology based Automations and Applications. However more and more Businesses in Modern Times including Retailers worldwide are embracing Technological use in their day to day Operations, (Siganul, Yoag, Tanakanjal, Jiony, & Gom, 2015).

As described by (Ivanov, Tsiponalidis, & Shoneberger, 2019), Logistics and Supply Chain Management increases Business success by lowering down Operating Costs as it matches production to Consumer Demand thereby increasing Sales and reducing Warehousing Costs, enhancing Customer Service by providing Time and Place Utility and improving Product Quality by creating Supplier Relationships and Collaborations.

Logistics and Supply Chain Management is a Cross-Department and Cross-Enterprise integration and coordination of Material, Information and Financial flows to transform and use of Supply chain resources in the most rational way along the entire value chain, from suppliers to final consumers. This Coordination and Integration can be in form of; Technological Planning Integration, Relationship Integration, Customer Integration, Internal Integration, Material and Supplier Integration, (Lotif, Sahran, Mukhtar, & Zadeh, 2013).

2.2. Components of Logistics and Supply Chain Management

Logistics Management is a complex process that includes multiple Components for the effective movement of Goods, (Grant, Trautrims, & Wong, 2013). It is not possible to understand Logistics Management without a proper understanding of these Components:

Inventory Planning- This ensures that proper quantities are maintained to meet Customer Demand, while minimizing the Costs related to the storage of the Goods. It aids in providing accurate order fulfilment, well organized Warehousing, Increased Productivity as well as savings in terms of Time and Money, (Grant, Trautrims, & Wong, 2013).

Inbound Logistics- This refers to the Transportation, Storage and receiving of Goods from Suppliers by the Business. Effective Inbound Logistics can help in the Production of High Quality Products, reduce Overhead Costs, avoid Material Wastage, increase Sales and production time, (Grant, Trautrims, & Wong, 2013). This also depends on the relationship between the Business and its Suppliers.

Outbound Logistics- This refers to the Transportation of the Finished Product to the Customer from a Warehouse or Distribution Centre. The Outbound Logistics stages are; Warehousing, Storage, Distribution, Transportation and Delivery, (Grant, Trautrims, & Wong, 2013). It plays a crucial role in the Company's Customer Relationship Management.

Fleet Management-This involves the Management of Vehicles to minimize or eliminate risks associated with the transportation of Goods. It helps in improving Efficiency, Productivity and the reduction of the overall Transportation and Labour Costs

Warehousing-This refers to the storage of Goods and Raw Materials in a Warehouse. Effective Logistics Management is not possible without proper Warehouse Management. Warehouse Proximity (Distance) and Capacity are two critical aspects in the Supply Chain, determining the Efficiency of Logistics Operations, (Grant, Trautrims, & Wong, 2013).

Delivery Fulfilment-This is the process used to move the Product from the point Sale into the Customers' Hands. It also refers to the way the Business responds to its Customers and the Steps taken to achieve the perfect order as per Customer Requirements, (Grant, Trautrims, & Wong, 2013). Thus this plays a major role in increasing Customer Satisfaction.

Demand Planning- This is the process of analyzing, evaluating and forecasting the Demand for Goods to ensure the availability of the Products and Goods that Consumers want. It gives the Business the ability to predict future Sales and have sufficient Inventory Levels to meet the Demand without having Surplus Stock, (Grant, Trautrims, & Wong, 2013). It is also essential for predicting Future Revenue Generation Opportunities and gaining an Insight into Market Trends.

2.3. Technology and Supply Chain Integration

Supply Chain integration is a process whereby all parties involved in the fulfilment of a product are integrated into a single system. This means that all parties involved in the product from inception to final delivery (Suppliers, Manufacturers, Wholesalers/distributors, Retailers) must work together have the same ethics and values in their delivery as this contributes positively towards the value addition required at each stage for best Product and Service Quality for the Consumer, (Ivanov, Tsiponalidis, & Shoneberger, 2019).

(Flynn & Xhao, 2010), described Supply Chain Integration as the degree to which Manufacturers collaborate with its Supply Chain Partners and collaborates and manages both Inter and Intra Communication Activities in order to have effective Product and Information flows so as to increase value for Customers. Supply Chain integration is divided into two dimensions (Internal and External). Internal integration is the co-ordinations within one firm (cross-department) while external integration (cross-enterprise) is how one firm interacts with another one in the supply chain for optimum product and service delivery, (Flynn & Xhao, 2010).

This Study assessed Supply Chain Integration by looking at Internal Integration as well as the External Integrations with Customers and Suppliers.

Customer Integration- Customer integration involves three main dimensions; Research and Development, Planning, Distribution, (Reaidy, Lavastre, Ageron, & Chez-Megan, 2020). Customer integration refers to acquiring technological, marketing, production and inventory information from the customers themselves. In order for the producer to produce marketable products which have a great demand on the market, it has to tailor to consumer specifications. Customer integration is also known as supply Chain Integration downstream ((Lotif, Sahran, Mukhtar, & Zadeh, 2013), as it involves going down the supply chain line to the final consumer. Customer integration is most easily applicable to those firms which use direct marketing whereby the firm interacts directly with the customer without any intermediaries in between, (Reaidy, Lavastre, Ageron, & Chez-Megan, 2020).

Material and Supplier Integration-this is also known as supply chain upstream as it involves moving up to connect with the suppliers of materials before the product even comes into existence. Suppliers also provide information to the firm in the production process since they know the components better than anyone. Supplier integration refer to the relationships which enable the acquisition of technical, financial and operational information from suppliers, (Lotif, Sahran, Mukhtar, & Zadeh, 2013). This is crucial in the production of good quality products as the suppliers are able to make available all the necessary information needed to maximize the components potential and also the producers are able to acquire the raw-materials according to their own specific needs.

Internal integration-this is the integration that happens within the organization itself (cross-department). For every system to work well there needs to be coordination between its different components, this goes for the organizational system as well. Every organization work towards a certain goal or objective, be it a Manufacturing Firm or Service Provider. Internal integration is the integration between all internal departments from incoming of raw-materials to the production and distribution of final products, (Lotif, Sahran, Mukhtar, & Zadeh, 2013). It involves integration across all departments and functions in the firm in order to fulfil customer requirements.

Supply Chain Integration can be used as management tool to create Competitive Advantage, (Flynn & Xhao, 2010).

2.4. The Impact of Technology on Logistics and Supply Chain Management

(Bouzida & Merzoug, 2021), established that Logistics Information Systems highly contribute to the performance of Logistics Activities, Supply Chain Integration and Supply Chain Optimization through the enhancement of efficiency of Supply Chain Management and the reduction of Supply Chain Costs.

(Mohammed, Sahar, Hasan, Fiah, & Nor, 2013), also stressed that in order to comply with the current Global Business Trends, the Logistics Industry together with the Supply Chain Management need a complete Communication Support System.

(Mohammed, Sahar, Hasan, Fiah, & Nor, 2013), concluded that good Communication Flow and Information Devices are crucial in the success of Logistics Management.

(Inkinen, 2009), recognized that there are three main components to the success of Information Communication Technology in Logistics Management, these being; Reliability, Interoperability and Standardization.

(Singla, Pelaez-Diaz, Perez-Falcon, & Mukthar, 2021), IT helps Warehouse Staff manage Records Online in such a way that whenever an order is dispatched, it is automatically reduced from the Stock. This then makes Stock Auditing so much easier. (Singla, Pelaez-Diaz, Perez-Falcon, & Mukthar, 2021), found that the use of Technology helps in Transport and Route Planning as it uses models which calculate the Routes with less delivery time and less Costs. With an online ordering System, the software is able to manage Delivery Dates and suggest which Orders can be sent together in one Vehicle on one Route.

(Bhandari, 2014),found that Technology has an impact on several facets of Business including, Procurement, Planning, Web-Based Collaborations, Scheduling, Inventory Management, Logistics and Warehouse Management, and Customer Service and so it was concluded that Technology enhances Supply Chain efficiency and effectiveness thereby increasing the Company's competitiveness.

(Flynn & Xhao, 2010), established that Technology is most crucial for Supply Chain Integration which increases collaboration. (Lotif, Sahran, & Mukhtar, 2013), stressed that firms with which effectively collaborate and integrate with others through inter-organizational Relationships create a Competitive Advantage.

(Bouzida & Merzoug, 2021), found that the use of Logistics Information Systems in Supply Chain Management leads to Supply Chain Integration for Supply Chain Efficiency and Cost Reduction which in turn leads to Supply Chain Optimization.

(Singla, Pelaez-Diaz, Perez-Falcon, & Mukthar, 2021), also found that Technological use in Retail helps capture large amounts of Data on a daily basis and this goes straight into the Management Information Systems for Management Decision Making.

2.5. Types of Logistics and Supply Chain Software Applications mostly used in Logistics and Supply Chain Management.

(Helo & Szekely, 2005), divided Supply Chain related Applications into two main types; Inter-Firm Applications which are for the Firm's internal use only and Intra-Film Applications which are shared with other Firms.

(Helo & Szekely, 2005) also stated that from a Management point of view Supply Chain Applications can be also be further be divided into two; Transactional Software Applications which deal with acquiring and processing raw Data about the Firm's Transactions involving Supply Chain Management Operations both Past and Present (Ledger Systems, Sales Reports, E-Commerce Systems) and Analytical Software Applications which deal with developing and applying Decision Making Models for Supply Chain Management, (Production Scheduling Systems, Forecasting Systems and Supply Chain Optimization

(Helo & Szekely, 2005), also divided Logistics and Supply Chain Applications according to Operational Processes they perform and these can be divided into; Warehouse Management Systems (WMS), Transport Management Systems (TMS), Enterprise Integration Application Software (EIA), Enterprise Resource Planning (ERP), etc.

(Siganul, Yoag, Tanakanjal, Jiony, & Gom, 2015), found the most common Applications used by Retailers to be; Accounting Systems, Inventory Billing Systems, Point of Sale (POS) Systems, Microsoft Office Packages, Mobile Applications, Quick Response Coding, Internet based Computer Networks, Customer Relationship Management (CRM) Data Bases, and Asset Registration with Depreciation.

2.7. Challenges in Logistics Software Applications and their Implementation

(Helo & Szekely, 2005), found that most Software Applications for Supply Chain Management are ready made packages which are Mass Customized and ignore the specific requirements of Certain Industries and hence they offer a big challenge to most Businesses. The most common Challenges as analyzed by (Helo & Szekely, 2005), are as follows:

Complex Product Structures which require special configurations for Product Planning

Requirements for Accurate and Real Time Data

Evolving Logistic Systems Architecture which require flexible IT Solutions

New Advanced Businesses which require Advanced Solutions

(Blecker, Kelsten, & Ringle, 2014), found the most common challenges to be:

Financial Issues- High Investment Costs

Limited Data

Short Contract Durations with other Supply Chain Partners

Customer Security Issues- besides Customer Data Security, the Customer Security during Goods Delivery is also an issue

Lack of Gain Sharing Models- Though it is agreed that using shared Models improves performance, the real shared benefits to each player are not predicted accurately on the onset

Lack of Trust between Organisations which hinders free Information sharing

Lack of Commonly accepted Methodologies and Systems

Need for Common Compatible practices among members of the Supply Chain

Need for establishing Infrastructure Sharing Practices

Need for processing huge amounts of Data

2.8. Background of Technological Challenges and Advancements in Malawi

Malawi as a Country realizes the importance of the Digital Sector in improving Business Processes and the overall economic success of the Country and hence it continuously tries to improve the ICT Sector through many initiatives and Government Policies.

The Information Communication Technology Association, whose mission is to offer leadership by spearheading Policy Changes and supporting related developments aimed at enabling Malawians to effectively participate in modern Technology based Global Economy for the benefit of the Country and its partners, was formed as a one of the initiatives to encourage ICT Development in Malawi, (ICTAM, 2022).

However, the Digital Landscape in the country is less than ideal, (Bichler, 2007), revealed that Malawi faces a serious challenge in Information Communication Technology.

(Chiphwanya, 2022), observed that despite numerous Development in the ICT Sector, which include; the extension of Fibre Optic Backbone and Cross-Border interconnections, the Launch of 4G, the establishment of the Universal Service Fund with the Goal of improving Internet Connectivity and drop the high Internet Charges, Malawi still lags behind on Internet Connectivity and this is Characterized by Poor Service Provision, Low Penetration Rates and High Charges. This, in turn contribute to high Costs of running Businesses, limited Innovation and poor Information Flow.

(Chari & Nguyen, 2017), stressed the fact that Malawi being landlocked combined with the inadequacy of Infrastructure has a negative impact on the International Competitiveness and creates fewer inflow of Direct foreign Investment, Advanced Technologies and Innovations.

The Information Technology Bill- this is a Bill which seeks to provide a Legal Framework for the Development and use of Information Technology in Malawi. It was established that the previous Framework did not provide the Government, Private Sector and Citizens with a sufficiently regulated and standardized Information Technology System despite its vital importance in the implementation of the Country's development Goals, (Digmap, 2022).

The Bill complements the Electronic Transactions and Cyber security Act (2016), in regulating the Information Communications Technology Sector and provides for the establishment of a regulatory body for the sector, in the form of "the Malawi Information Technology Authority (MITA)", (Digmap, 2022).

3.0. Research Methodology

For this Study a Quantitative Approach was chosen as it is an excellent way to prove cause and effect as the case of the effect of Technology on Logistics and Supply Chain Management. The Quantitative Research method is carried out to give Value to naturally occurring relationships and is described as the Systematic Empirical Investigation of observable Phenomenon or Situations via Statistical, Mathematical or Computational Techniques.

3.1. Study Population

The Study Population for this Study was the Small and Medium Enterprise Retailers involved in some International Trade in Lilongwe City, Malawi. The Study concentrated on only those Business owners and Employees involved in Logistics and Supply Chain Management so as to get their views on the use of Technology in Processes like Procurement, Transportation Stock Management and warehousing as these form the basis of Logistics and Supply Chain Management. The Study population for this Study was 150.

3.2. Sample Size

To calculate the Sample Size the Study used the Slovin Formula: n=N/ (1+ Ne 2)

Where:

n represents the sample size,

N is the population size

Ne is the margin of error as decided by the researcher.

Using this Formula to calculate this study's Sample Size, 150 was taken as the population size. The confidence level chosen for this study is 95%. The 95% confidence level gave the Researcher an alpha level of 5% which was used for the calculation as below:

$n=N/ (1+ Ne^2)$

$n= 150/1+150 (0.05)^2$

n=150/1+0.375

n=150/1.375

n=109.9

n=110

3.3. Sampling Technique

For this Study a Probability Sampling Technique which uses Random Sampling was used to give an equal chance to all Retailers to participate and thus avoid bias, this is so because in Probability Sampling each member of the Population has an equal chance of being selected.

The Researcher used a fishbowl draw where a number was assigned to each Retailer and then each Retailer was written down against their number and these small papers were put in a bowl and be randomly picked until the sample size of was reached. Thus 150 papers were put in a Bowl from which 110 papers representing the sampled Retailers were picked.

The Study combined the Simple Random Sampling with the use of the Non-Probability Sampling of Purposive Sampling once the Retailers were picked through the Simple Random Sampling, thus the Researcher only sought the views of those Employees involved in Logistics and Supply Chain Management Sections of the Business. Thus the Study only targeted those Employees involved in the Procurement, Transportation/Delivery, Inventory Management and Warehousing, Sales and Marketing as these Processes are at the root of Logistics and Supply Chain Management.

3.4. Data Collection Sources

The Study used Primary Data as collected from the Retailers themselves

3.5. Data Collection Tool

The Study used a Likert Scale Self-Administered Questionnaire

Data Analysis Tool

The Study used the IBM-SPSS Tool for Data Analysis.

4.0 Major Findings

	Statement	**SA**	**A**	**NS**	**D**	**SD**
	Assessing the impact of Technology on Logistics and Supply Chain Management in the Small and Medium Enterprise Retail Sector involved in getting some Supplies from outside the Country	**%**	**%**	**%**	**%**	**%**
1	The Extent of Technological use in Small and Medium Enterprise Retailers	23	64	5	6	2
2	Technology use and the enhancement of coordination of Internal Work Processes (Internal Integration)	15	52	13	14	6
3	Technology and Supplier/Customer Integration	23	52	9	10	6
4	Technology and Efficiency Creation	12	58	16	10	4
	Assessing the Type of Logistics Systems/Technologies used by Small and Medium Enterprise Retailers in Lilongwe City, Malawi					
5	Point of Sale Systems Use	9	44	2	42	3
6	Phone Applications and Computer Microsoft Packages Use	22	62	2	8	6
7	ERP Systems Use	2	5	4	60	29
8	Accounting Systems Use	7	28	3	44	18
9	Supply Chain Applications Use	3	6	9	56	26
	Measuring the Pro/Cons of Logistics and Supply Chain Management Systems/Technologies					
10	Logistics and Supply Chain Systems and Work Efficiency/ Competitive advantage Creation	9	67	6	15	3
11	High Expenses in Logistics and Supply Chain System Implementation	21	53	14	7	5
12	Logistics and Supply Chain Systems' enhancement of Customer and Supplier Relations	10	64	10	13	3
	Assessing the Challenges faced in the Implementation of Logistics and Supply Chain Management Systems/Internet Communication Technology (ICT) for Small and Medium Enterprises					
13	High Costs in Technological Implementation	17	53	15	10	5
14	Low/Slow Internet Connectivity/ Poor Service Delivery by Service Providers	24	64	5	5	2
15	Lack of Technical Know-how	16	42	10	19	13
16	High Internet Charges	31	63		4	2
17	Poor Infrastructure supporting ICT development in the Country	19	69	7	3	2

The Study Findings show that Technological use has a positive Impact on the aspects of Internal Work Process Coordination (Internal Integration), Supplier and Customer Integration (External Integration). It also has a Positive Impact on creating Logistics and Supply Chain Management Efficiency like easing Work Processes, reducing Lead Time, Creating Better Inventory Management by helping to Identify Fast and Slow- Moving Goods, and Creating better Customer Satisfaction.

On type of Technologies, Findings show that the Retailers mostly use basic Technologies like Phones/Phone Applications like Whatsapp, Calls, Messaging, E-mail etc. and Computer Packages like Word, Excel, etc to connect with their Suppliers and Customers. A Slight Majority use Point of Sale Systems (POS), while a considerable number also use Accounting Systems to track their Purchases and Sales. More Advanced Systems like Enterprise Resource Planning (ERP) and other Supply Chain Applications like Oracle, Aspen, etc. are hardly ever accessible to the Retailers on the Local Scene.

On the Pros and Cons of Logistics and Supply Chain Systems the Findings show that while Logistics and Supply Chain Technologies help in creating Work Process Efficiency and creating a Competitive Advantage, these Technologies are expensive to Purchase and Install thereby preventing the Retailers from accessing Advanced Systems/Technologies.

On Challenges faced in Technological Implementation, the Findings show that the Retailers face big Challenges on the Cost of Purchase and Installation of the Technologies, Slow Internet Connectivity and Poor Service Delivery by the Local Service Providers, high Internet Charges, Lack of Technical Know-how on the part of the Retailers themselves, and the overall Poor ICT Development Infrastructure in the Country.

5.0. Suggestions/Recommendations

The following recommendations as based on the Respondents' own views and the Research Findings have been provided by the Study:

The Government should put in place Measures to improve the Information Communication Technology (ICT) Infrastructure in the Country.

Logistics and Supply Chain Vendors should consider on providing more Apps for Small and Medium Enterprises

Internet Service Providers should lower their Costs/Charges

Internet Service Providers should improve on Service Delivery

Information Communication Technology (ICT) should be encouraged in all Schools

6.0. Conclusion

Based upon the Study Findings, it can be concluded that Information Communication Technology is essential for the Management Logistics and Supply Chain Activities in Small and Medium Enterprise Retailers. Technological Use enables the Smooth Coordination of Activities along the Supply Chain i.e. from Manufactures, Wholesalers to Retailers. Technology allows for this smooth flow by enabling the coordination of Work Processes from within (Internal Integration), and the coordination with other Business Ventures/Suppliers (External Integration). Both Internal and External Coordination are the basis for Competitive advantage as the Retailers are able to build Customer/Supplier Relations allowing them to Stock according to Customer Needs and Specifications.

While the Study was able to establish the Positive Impact that the Use of Technology in Retail it also established that Technology Implementation in Malawi faces some serious Challenges in addition to the fact that more Advanced Technologies are expensive.

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